IN THE CLAIMS:
Please amend the claims to read as follows:

1. (Currently amended) An optical transmission path monitoring system for monitoring optical transmission paths by wavelength-division multiplexing probe lights with signal lights of a wavelength division multiplexing optical transmission system ~~provided with~~ , said optical transmission path monitoring system comprising:

an optical fiber monitoring probe light for monitoring optical fibers which constitute some parts of said optical transmission ~~paths, and~~ paths; and

an optical amplifier-repeater monitoring probe light for monitoring optical amplifier-repeaters which constitute other parts of said optical transmission paths.

2. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 1, wherein:

~~the~~ a wavelength of said optical fiber monitoring probe light is such a wavelength as makes ~~the~~ a wavelength dispersion of group delays over ~~the~~ a full length of said optical transmission paths ~~negative, and~~ negative; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light is such a wavelength as makes the wavelength dispersion of said group delays over the full length of the optical transmission paths positive.

3. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 1, wherein:

said optical transmission paths have a zero dispersion wavelength which makes ~~the~~ a

wavelength dispersion of group delays over ~~the~~ a full length of said optical transmission paths ~~zero,~~ zero;

~~the~~ a wavelength of said optical fiber monitoring probe light is on ~~the~~ a shorter wavelength side than said zero dispersion ~~wavelength, and~~ wavelength; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light is on ~~the~~ a longer wavelength side than said zero dispersion wavelength.

4. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 1, wherein:

said wavelength division multiplexing optical transmission system ~~has~~ comprises two-core two-way optical transmission paths, and ~~is provided with~~ comprises a total of four probe lights including said optical fiber monitoring probe light and said optical amplifier-repeater monitoring probe light for delivering to each of ~~the~~ two outward optical transmission paths which said two-core two-way optical transmission paths ~~have, and~~ have; and

every one of said four probe lights has a different wavelength from the others.

5. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 4, ~~provided with~~ further comprising:

probe light generating means for generating said optical fiber monitoring probe lights and optical amplifier-repeater monitoring probe ~~lights,~~ lights;

multiplexing means for multiplexing said probe lights with signal lights and delivering ~~the~~ multiplexed lights to ~~said~~ an outward optical transmission ~~path,~~ path;

loop back means for branching reflected light components generating from said

probe lights from said outward optical transmission path and coupling the branched lights with signal lights on ~~said~~ an inward optical transmission ~~path, and~~ path; and

optical detecting means for detecting said light components transmitted by said loop back means and outputted from said inward optical transmission path, wherein:

said optical transmission paths are monitored on ~~the~~ a basis of ~~the~~ an output of said optical detecting means.

6. (Original Claim) The optical transmission path monitoring system, as claimed in Claim 5, wherein:

said optical detecting means optically detects by a coherent light detecting system said light components transmitted by said loop back means and outputted from said inward optical transmission path.

7. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 6, wherein:

said coherent light detecting system ~~is~~ comprises an optical homodyne detection system using said optical fiber monitoring probe light from said inward optical transmission path as a received light and a light partially branched from said optical fiber monitoring probe light from said probe light generating means as a local oscillating light.

8. (Original Claim) The optical transmission path monitoring system, as claimed in Claim 5, wherein:

said optical detecting means optically detects by a direct light detecting system said

light components transmitted by said loop back means and outputted from said inward optical transmission path.

9. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 5, wherein:

said loop back means ~~is provided with~~ comprises two 2×2 optical couplers inserted into said optical transmission paths and mutually connected by one each of optical terminals.

10. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 9, wherein:

said 2×2 optical couplers ~~are provided with~~ comprise light reflecting means for selectively reflecting said optical amplifier-repeater monitoring probe lights.

11. (Currently amended) The optical transmission path monitoring system, as claimed in Claim 5, further ~~provided with~~ comprising:

means for alternatively selecting said optical fiber monitoring probe lights and optical amplifier-repeater monitoring probe lights for supply to said outward optical transmission path, and monitoring the optical fibers and the optical amplifier-repeaters on a time-division basis.

12. (Currently amended) An optical transmission path monitoring apparatus for monitoring optical transmission paths by wavelength-division multiplexing probe lights with signal lights of a wavelength division multiplexing optical transmission system ~~provided with~~ , said

optical transmission path monitoring apparatus comprising:

probe light generating means for emitting said probe ~~lights,~~ lights;

multiplexing means for multiplexing said probe lights with signal lights and delivering ~~the~~ multiplexed lights to an outward optical transmission path of the optical transmission paths provided with said outward optical transmission path for transmitting signal lights, an inward optical transmission path for receiving signal lights, and loop back means for looping back between said two optical transmission ~~paths, and~~ paths; and

optical detecting means detecting light components transmitted by said loop back means and outputted from said inward optical transmission path, wherein:

said optical transmission paths are monitored on ~~the~~ a basis of ~~the~~ an output of said optical detecting means.

13. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 12, wherein said probe lights comprise:

an optical fiber monitoring probe light for monitoring optical fibers which constitute some parts of said optical transmission ~~paths, and~~ paths; and

an optical amplifier-repeater monitoring probe light for monitoring optical amplifier-repeaters which constitute other parts of said optical transmission paths.

14. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 13, wherein:

~~the~~ a wavelength of said optical fiber monitoring probe light ~~is~~ comprises such a wavelength as makes the wavelength dispersion of group delays over ~~the~~ a full length of said

optical transmission paths ~~negative, and~~ negative; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light ~~is~~ comprises such a wavelength as makes the wavelength dispersion of said group delays over the full length of the optical transmission paths positive.

15. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 13, wherein:

~~the~~ a wavelength of said optical fiber monitoring probe light is on ~~the~~ a shorter wavelength side than a zero dispersion wavelength which makes ~~the~~ a wavelength dispersion of group delays over ~~the~~ a full length of said optical transmission paths ~~zero, and~~ zero; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light is on ~~the~~ a longer wavelength side than said zero dispersion wavelength.

16. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 13, wherein:

said wavelength division multiplexing optical transmission system ~~has~~ comprises two-core two-way optical transmission paths, ~~said~~ optical transmission path monitoring apparatuses being provided opposite each other, and ~~is provided with~~ comprises a total of four probe lights including said optical fiber monitoring probe light and said optical amplifier-repeater monitoring probe light for delivering to each of ~~the~~ two outward optical transmission paths which said two-core two-way optical transmission paths ~~have, and~~ have; and

every one of said four probe lights has a different wavelength from the others.

17. (Original Claim) The optical transmission path monitoring apparatus, as claimed in Claim 12, wherein:

said optical detecting means optically detects by a coherent light detecting system light components transmitted by said loop back means and outputted from said inward optical transmission path.

18. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 17, wherein:

said coherent light detecting system ~~is~~ comprises an optical homodyne detection system using said optical fiber monitoring probe light from said inward optical transmission path as a received light and a light partially branched from said optical fiber monitoring probe light from said probe light generating means as a local oscillating light.

19. (Original Claim) The optical transmission path monitoring apparatus, as claimed in Claim 12, wherein:

said optical detecting means optically detects by a direct light detecting system said light components transmitted by said loop back means and outputted from said inward optical transmission path.

20. (Original Claim) The optical transmission path monitoring apparatus, as claimed in Claim 12, wherein:

said loop back means is provided with two 2×2 optical couplers inserted into said

optical transmission paths and mutually connected by one each of optical terminals.

21. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 12, wherein:

said 2×2 optical couplers ~~are provided with~~ comprise light reflecting means for selectively reflecting said optical amplifier-repeater monitoring probe lights.

22. (Currently amended) The optical transmission path monitoring apparatus, as claimed in Claim 12, further ~~provided with~~ comprising:

means for alternatively selecting said optical fiber monitoring probe lights and optical amplifier-repeater monitoring probe lights for supply to said outward optical transmission path, and monitoring the optical fibers and the optical amplifier-repeaters on a time-division basis.

23. (Currently amended) An optical transmission path monitoring method for monitoring optical transmission paths by wavelength-division multiplexing probe lights with signal lights of a wavelength division multiplexing optical transmission system ~~using~~, said method comprising:

using an optical fiber monitoring probe light for monitoring optical fibers which constitute some parts of said optical transmission ~~paths, and~~ paths; and

using an optical amplifier-repeater monitoring probe light for monitoring optical amplifier-repeaters which constitute other parts of said optical transmission paths.

24. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 23, wherein:

~~the~~ a wavelength of said optical fiber monitoring probe light ~~is~~ comprises such a wavelength as makes ~~the~~ a wavelength dispersion of group delays over ~~the~~ a full length of said optical transmission paths ~~negative, and~~ negative; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light ~~is~~ comprises such a wavelength as makes the wavelength dispersion of said group delays over the full length of the optical transmission paths positive.

25. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 23, wherein:

said optical transmission path has a zero dispersion wavelength which makes ~~the~~ a wavelength dispersion of group delays over ~~the~~ a full length of said optical transmission paths ~~zero,~~ zero;

~~the~~ a wavelength of said optical fiber monitoring probe light is on ~~the~~ a shorter wavelength side than said zero dispersion ~~wavelength, and~~ wavelength; and

~~the~~ a wavelength of said optical amplifier-repeater monitoring probe light is on ~~the~~ a longer wavelength side than said zero dispersion wavelength.

26. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 23, wherein:

said wavelength division multiplexing optical transmission system ~~has~~ comprises two-core two-way optical transmission paths, and ~~is provided with~~ comprises a total of four

probe lights including said optical fiber monitoring probe light and said optical amplifier-repeater monitoring probe light for delivering to each of ~~the~~ two outward optical transmission paths which said two-core two-way optical transmission paths ~~have, and~~ include; and

every one of said four probe lights has a different wavelength from the others.

27. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 26, said method comprising:

~~a step of~~ generating said optical fiber monitoring probe lights and optical amplifier-repeater monitoring probe ~~lights,~~ lights;

~~a step of~~ multiplexing said probe lights with signal lights and delivering ~~the~~ multiplexed lights to said outward optical transmission ~~path, and~~ path; and

~~a step of~~ detecting said light components outputted from said inward optical transmission path by branching reflected light components generating from said probe lights from ~~said~~ an outward optical transmission path and looping back ~~the~~ branched lights onto ~~said~~ an inward optical transmission path, ~~whereby:~~

whereby said optical transmission paths are monitored on ~~the~~ a basis of ~~the~~ an output of said optical detecting means.

28. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 27, whereby:

~~said~~ light components outputted from said inward optical transmission path are detected by a coherent light detecting system ~~at~~ during said ~~step of~~ detecting light components.

29. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 28, whereby:

said coherent light detecting system ~~is~~ comprises an optical homodyne detection system using said optical fiber monitoring probe light from said inward optical transmission path as ~~receive~~ a received light and a light partially branched from said optical fiber monitoring probe light generated from said probe light ~~generating means~~ as a local oscillating light.

30. (Currently amended) The optical transmission path monitoring method, as claimed in Claim 27, whereby:

said light components transmitted by said ~~loop back means~~ looping back and outputted from said inward optical transmission path are detected by a direct light detecting system ~~at~~ during said ~~step of~~ detecting light components.

31. (Original Claim) The optical transmission path monitoring method, as claimed in Claim 27, whereby:

said optical fiber monitoring probe lights and optical amplifier-repeater monitoring probe lights are alternatively selected for supply to said outward optical transmission path, and the optical fibers and the optical amplifier-repeaters are monitored on a time-division basis.